



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

09/819,729

03/29/2001

Hironori Yahagi

826.1721

4351

21171

7590

06/13/2006

STAAS & HALSEY LLP

SUITE 700

1201 NEW YORK AVENUE, N.W.

WASHINGTON, DC 20005

EXAMINER

HONEYCUTT, KRISTINA B

ART UNIT

PAPER NUMBER

2178

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



### DETAILED ACTION

1. This action is responsive to the amendment filed March 22, 2006.

**This action is made Final.**

2. Claims 1-14 remain pending in the case. Claims 1, 3, 9, 10, 11, 12, 13 and 14 are independent claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 9-11 and 14 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Brintzenhofe et al. (U.S. Pub. No. 20050223320; publication date October 6, 2005; filed May 31, 2005; continuation of application filed September 9, 1996) in view of Zeng et al. (U.S. Pub. No. 20020003906; publication date January 10, 2002; filed May 21, 2001; continuation of application filed September 22, 1998).

Art Unit: 2178

**Regarding independent claim 1**, Brintzenhofe discloses a document inputting device inputting information of a structured document that is written with a set of hierarchical elements, and composed of a plurality of records each including one text element or more (Fig. 9, 13; Abstract) since Brintzenhofe teaches a document in figure 9 represented as a hierarchical tree in figure 13 with textual elements “rods” and “nets”.

Brintzenhofe discloses combining elements and preserving relationships (p.7, para. 91; p.25, para. 247, 248) but does not disclose a joining device generating a new text element by combining contents of text elements relatively at a same position among two records or more of the structured document or a generating device generating a new record that includes the new element and inherits a relative position relationship of elements in two records or more. Zeng discloses combining text elements at relatively the same position, creating a new text element (Fig. 6, 7; p.2, para. 19, 20; p.3, para. 34) since all A elements on the leftmost branches of the tree of Figure 6 are combined to form a new A element in Figure 7. It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and Zeng before him at the time the invention was made, to modify combining elements as taught by Brintzenhofe to include creating a new text element by combining text elements at the same position as taught by Zeng, because combining elements at the same position to create a new element, as taught by Zeng (Fig. 6, 7; p.2, para. 19, 20; p.3, para. 34), creates a more concise hierarchical structure of the document.

Brintzenhofe discloses converting a document and outputting the structured document (p.1, para. 6; p.4, para. 68) but does not disclose converting the structured

Art Unit: 2178

document by replacing the two records or more with the new record, thereby decreasing the number of hierarchical elements of the structured document. Zeng discloses replacing multiple records with a new record which decreases the number of hierarchical elements (Fig. 6, 7; p.3, para. 34). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and Zeng before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include decreasing the number of elements by replacement as taught by Zeng, because replacing multiple records with a new record, as taught by Zeng (Fig. 6, 7; p.3, para. 34), would create a more concise hierarchical structure of the document.

**Regarding independent claims 9, 10, 11 and 14**, the claims reflect the computer-readable storage medium on which is recorded a program, a propagation signal for propagating a program, a converting apparatus and a method for performing the operations of claim 1 and are rejected along the same rationale.

4. Claim 2 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Brintzenhofe in view of Zeng in further view of DeRose (U.S. Patent 6105044; date of patent August 15, 2000; filed July 13, 1999).

**Regarding dependent claim 2**, Brintzenhofe does not disclose a key inputting device inputting a search key or searching device searching the structured document after being converted with the search key, extracting a character string corresponding to a

Art Unit: 2178

position of a detected character string from contents of an element in a certain record when the character string corresponding to the search key is detected from contents of another element in the certain record, restoring a record before being converted, which includes the search key, from the detected character string and the extracted character string, and outputting the restored record as a search result. DeRose teaches inputting a search key (col. 13, lines 34-37; col. 15, lines 29-35) and searching the document, extracting a string corresponding to a position of a detected string from contents of an element in a certain record when the string corresponding to the search key is detected from contents of another element in the certain record, restoring a record from the detected character string and the extracted character string, and outputting the restored record as a search result (col. 13, lines 34-37, 47-67; col. 14, lines 1-48; col. 17, lines 60-62). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and DeRose before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include search keys as taught by DeRose, because utilizing search keys, as taught by DeRose (col. 13, lines 34-37, 47-67; col. 14, lines 1-48; col. 15, lines 29-35; col. 17, lines 60-62), would allow uses to search for and convert specific elements of a document.

5. Claims 3-4, 12 and 13 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Brintzenhofe in view of Zeng in further view of Ardoin et al. (U.S. Pub. No. 20020099684; publication date July 25, 2002; filed May 7, 2001; continuation of application filed December 13, 1999).

**Regarding independent claim 3**, Brintzenhofe discloses a document inputting device inputting information of a structured document written with a set of hierarchical elements (Fig. 9, 13; Abstract) since Brintzenhofe teaches a document in figure 9 represented as a hierarchical tree in figure 13.

Brintzenhofe further discloses a storing device storing the information of the structured document (p.6, para. 83; p.28, para. 270).

Brintzenhofe further discloses a deleting device deleting an unnecessary original element (p.19, para. 194).

Brintzenhofe discloses combining elements and preserving relationships (p.7, para. 91; p.25, para. 247, 248) but does not disclose a joining device generating a plurality of new text elements by combining, as synthesis targets, content of each element included in a first combination of elements that successively exist side by side in a level immediately below a certain element and have a same element name, and content of each element included in a second combination of elements that have a same element name in a certain level lower than the elements of the first combination, elements in each level on a route from the elements of the first combination to the certain level having a same element name or generating a synthesized substructure that includes the plurality of new text elements, and inherits a relative position relationship of original elements among the plurality of new text elements. Zeng discloses combining text elements that exist side by side and have the same name to form a new substructure (Fig. 6, 7; p.2, para. 19, 20; p.3, para. 34) since all A elements

Art Unit: 2178

on the leftmost branch of the tree in Figure 6 are combined to form a new substructure in Figure 7. It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and Zeng before him at the time the invention was made, to modify combining elements as taught by Brintzenhofe to include combining elements at the same position with the same name as taught by Zeng, because combining text elements of the same name at the same position to form a new substructure, as taught by Zeng (Fig. 6, 7; p.2, para. 19, 20; p.3, para. 34), would create a more concise hierarchical structure of the document.

Brintzenhofe discloses converting a document and outputting the structured document (p.1, para. 6; p.4, para. 68) but does not disclose converting the structured document using devices to decrease the number of hierarchical elements of the structured document. Zeng discloses using devices to replace multiple records with a new record which decreases the number of hierarchical elements (Fig. 6, 7; p.3, para. 34). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and Zeng before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include decreasing the number of elements by replacement as taught by Zeng, because replacing multiple records with a new record, as taught by Zeng (Fig. 6, 7; p.3, para. 34), would create a more concise hierarchical structure of the document.

Brintzenhofe does not teach a duplicating device generating a duplication of an unjoined element below a new element included in a synthesized substructure generated from an element higher than the unjoined element. Ardoin discloses a



duplicating device generating a duplication of an element below another element included in a structure (p.36, para. 573). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and Ardoin before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include generating a duplication of an element as taught by Ardoin, because generating a duplicate unjoined element, as taught by Ardoin (p.36, para. 573), would provide two copies of the same element so that if changes are made to one, such as combining it with another element, the original element would still be available unchanged.

**Regarding dependent claim 4,** Brintzenhofe does not disclose generating the synthesized substructure if a combination of elements that successively exist side by side and have a same element name in two levels or more on the route to the certain level is not found. Zeng discloses generating a substructure if a combination of elements that exist side by side with the same name is not found (Fig. 6, 7; p.2, para. 19, 20; p.3, para. 34) since Zeng teaches, in the figures, some elements not existing side by side with the same name but a substructure being created anyway. It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and Zeng before him at the time the invention was made, to modify generating a substructure as taught by Brintzenhofe to include generating a substructure if combinations are not found as taught by Zeng, because generating a substructure despite combinations being found, as taught by Zeng (Fig. 6, 7; p.2, para.

19, 20; p.3, para. 34), would still allow a more concise hierarchical structure of the document to be created.

**Regarding independent claims 12 and 13**, the claims reflect the methods for performing the operations of claim 3 and are rejected along the same rationale.

6. Claim 5 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Brintzenhofe in view of Zeng in further view of Ardoin in further in view of Alam et al. (U.S. Patent 6336124; date of patent January 1, 2002; filed July 7, 1999).

**Regarding dependent claim 5**, Brintzenhofe does not teach joining device divides the second combination of the elements into a plurality of groups each composed of a predetermined number of elements, and specifies the synthesis targets based on the predetermined number of elements included in each of the groups. Alam discloses dividing combinations into a plurality of groups composed of a predetermined number of elements (col. 15, lines 56-67; col. 16, lines 1-14). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and Alam before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include dividing elements into groups composed of a predetermined number of elements as taught by Alam, because dividing elements into groups of specific numbers would allow elements to be displayed within the display parameter, as taught by Alam (col. 15, lines 65-67; col. 16, lines 1-3).

7. Claim 6-8 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Brintzenhofe in view of Zeng in further view of Ardoin in further in view of DeRose.

**Regarding dependent claim 6,** Brintzenhofe does not teach generating contents of the new elements by inserting a delimiter between the two joined contents. DeRose teaches generating contents of the new elements by inserting a delimiter between the joined contents (col. 11, lines 43-49). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and DeRose before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include inserting delimiters as taught by DeRose, because inserting delimiters to generate new elements, as taught by DeRose (col. 11, lines 43-49), would aid in preserving text relationships since the delimiters would be used to separate contents.

**Regarding dependent claim 7,** Brintzenhofe does not teach consecutively inserting the delimiter in the contents of new elements if content of an element which becomes the synthesis target is lacking. DeRose teaches consecutively inserting the delimiter in the contents of new elements if content of an element which becomes the synthesis target is lacking (col. 10, lines 65-67; col. 11, line 1). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and DeRose before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include inserting delimiters if content is lacking as taught by DeRose,

because inserting delimiters to generate new elements, as taught by DeRose (col. 10, lines 65-67; col. 11, lines 1, 43-49), would aid in preserving text relationships since the delimiters would be used to separate contents.

**Regarding dependent claim 8**, Brintzenhofe does not disclose a key inputting device inputting a search key or a searching device comparing a character string between two delimiters, which is included in contents of elements within the structured document of the synthetic type, with a character string of the search key, obtaining an order of a delimiter preceding a character string corresponding to the search key when the character string corresponding to the search key is detected from contents of elements within a certain synthesized substructure, extracting a character string between a delimiter corresponding to the order and a next delimiter in contents of another element in the certain synthesized substructure, restoring a corresponding portion of the structured document before being converted from the detected character string and the extracted character string, and outputting the restored portion as a search result.

DeRose teaches inputting a search key (col. 13, lines 34-37; col. 15, lines 29-35) and comparing a string between two delimiters with a string of the search key, obtaining an order of a delimiter preceding a string corresponding to the search key when the string corresponding to the search key is detected, extracting a string between a delimiter corresponding to the order and a next delimiter in contents of another element in the substructure, restoring a corresponding portion of the structured document before being converted from the detected and extracted strings, and outputting the restored portion

Art Unit: 2178

as a search result (col. 13, lines 34-37, 47-67; col. 14, lines 1-48; col. 17, lines 60-62; col. 18, lines 60-62). It would have been obvious to one of ordinary skill in the art, having the teachings of Brintzenhofe and DeRose before him at the time the invention was made, to modify document conversion as taught by Brintzenhofe to include search keys and delimiters as taught by DeRose, because utilizing search keys and delimiters, as taught by DeRose (col. 13, lines 34-37, 47-67; col. 14, lines 1-48; col. 15, lines 29-35; col. 17, lines 60-62), would allow uses to search for and convert specific elements of a document and maintain text relationships.

### ***Response to Arguments***

8. Applicant's arguments filed March 22, 2006 have been fully considered but they are not persuasive. Applicants indicate that Zeng is not about structured documents much less structured documents of text (p.6, para. 5). The Examiner disagrees since Zeng teaches inputting an image including text and graphic regions and dividing the image into segments to form a tree (Abstract, p.4, para 52). Zeng further teaches combining elements in the tree based on position and similarities to create a new text element (Fig. 6, 7; p.2, para. 19, 20; p.3, para. 34) since elements with A text in the leftmost branches of the tree in Figure 6 are combined to form an A text element in Figure 7. The text relationship is preserved since all A elements in the leftmost branches of the tree in Figure 6 are combined into an A element in the tree in Figure 7.

Claims 2 and 4-8 depend from independent claims 1 and 3. Therefore claims 2 and 4-8 are rejected at least based on the rationale of the rejection above.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristina B. Honeycutt whose telephone number is 571-272-4123. The examiner can normally be reached on 8:00 am - 5:00 pm Monday-Friday.

Art Unit: 2178

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KBH



**CESAR PAULA**  
**PRIMARY EXAMINER**